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10/736,089	12/15/2003	Ajith K. Kumar	132250NP/GETS 5314.1	3281

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 SENNIGER POWERS
 ONE METROPOLITAN SQUARE
 16TH FLOOR
 ST LOUIS, MO 63102

EXAMINER

MANCHO, RONNIE M

ART UNIT	PAPER NUMBER
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3663

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/03/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/03/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

Office Action Summary

Application No.

10/736,089

Applicant(s)

KUMAR ET AL.

Examiner

Ronnie Mancho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,8,14-22,26,50,52-58 and 62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,8,14-22,26,50,52-58,62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1, 3, 8, 52, 53 are objected to because of the following informalities:

In claim 1 in the last three lines, applicant is advised to change "is responsive the" to -- is responsive to the-- for clarity.

In claim 8, lines 2&3, applicant is advised to change "with a railroad infrastructure" to -- with the railroad infrastructure -- for clarity. In line 5, applicant is advised to change "a railroad track network" to -- the railroad track network -- for clarity.

Similar corrections should be made to claim 3, etc.

In claim 52 and 53, applicant is advised to cancel the second occurrence of the word "the" in line 1.

In claim 53, applicant is advised to change "indicative a change" to -- indicative of a change-- for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 3, 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

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art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In independent claim 1, the applicant recites “the processor associated with the at least one other level is responsive the received generated operating commands and parameter data *to control an operation across all the levels of the railway system*”. The applicant’s claim limitation imply that each processor associated with any level controls all the levels in the railway system. That is for example the processor associated with the locomotive level controls all the levels of the railway system. This is new matter.

Claims 3 and 8 are rejected for depending on a rejected base claim.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3, 8, 22, 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In claim 1, the applicant does not provide the requisite degree to ascertain what all is meant and encompassed by “each processor generating.....parameter data” in the claims.

Claims 3 and 8 are rejected for depending on a rejected base claim.

In claim 8, the applicant recites the phrase, “optimization instructions”. Applicant does not provide the requisite degree to ascertain what all is meant and encompassed by the phrase. The phrase is therefore indefinite.

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In claim 22, it is not clear what all is meant and encompassed by the phrase, “an extent of compliance”. The limitation is indefinite. Applicant does not provide the requisite degree by which one skilled in the art can ascertain the limitation.

In claim 26, it is not clear what all is meant and encompassed by the phrase, “key operating constraints”. The limitation is indefinite. Applicant does not provide the requisite degree by which one skilled in the art can ascertain the limitation.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3, 8, 14-22, 26, 50, 52-58, 62 rejected under 35 U.S.C. 102(b) as being anticipated by Polivka et al (5828979)

Regarding claim 1, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose a system for management of a multi-level railway system and its operational components, the railway system comprising:

a first processor 200 associated with a railroad infrastructure level configured to control an operation of a railroad infrastructure (col. 4, lines 39-67);

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a second processor 210 associated with a railroad track network level configured to control an operation of a railroad track network (col. 4, lines 64-67), wherein the railroad track network level is a sub-level of said railroad infrastructure level;

a third processor 206 associated with a train level configured to control an operation of a train (col. 4, lines 56-61), wherein the train level is a sub-level of said railroad track network level;

a fourth processor 204 associated with a consist level configured to control an operation of a consist of a train (col. 5, lines 46-55), wherein the consist level is a sub-level of said train level; and

a fifth processor 208 associated with a locomotive level configured to control an operation of a locomotive (col. 6, lines 36-50), wherein the locomotive level is a sub-level of said consist level;

each processor associated with each level receiving performance data and input data defining operational characteristics for associated level wherein each processor is responsive to the received input data to generate output instructions, and wherein each processor controls the operation in the associated level in accordance with the generated output (fig. 2-11; col. 2, lines 39-67; col. 5, lines 46-67; col. 6, lines 36-67, etc); and

each processor further generating operating commands and parameter data and providing and providing the generated command and parameter data to a processor associated with at least one other level, and wherein the processor associated with the at least one other level is responsive to the received generated operating commands and parameter data to control an

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operation across all the levels of the railway system as a function of the generated command data (col. 5, lines 46 to col. 7, lines 60; col. 8, lines 47-64).

Regarding claim 3, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose the system of claim 1 wherein the input data received by the first processor associated with the railroad infrastructure level includes:

railroad infrastructure data;

railroad track network data,

train data; and

controls an operation of the railroad infrastructure within the railroad infrastructure level based on the received infrastructure data, the railroad track network data, and the received train data.

Regarding claim 8, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose the system of claim 1, wherein the output instructions generated by the first processor associated with the railroad infrastructure includes infrastructure optimization instructions, and wherein the generated commands include commands to a railroad track network and commands to a train.

Regarding claim 14, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose a multi-level system for management of a railway system and its operational components, the railway system comprising:

a first level (col. 4, lines 39-67; col. 5, lines 1-64) configured to control an operation within the first level, said first level including first level operational parameters defining operational characteristics and data of the first level; and

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a second level (col. 4, lines 39-67; col. 5, lines 1-64) configured to control an operation within the second level, said second level including second level operational parameters defining the operational characteristic and data of the second level over time, wherein the second level is a sub-level of said first level;

said first level providing the second level with the first level operational parameters (col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64), and the second level providing the first level (see signal flow, figs. 2, 4-14) with the second level operational parameters; and

said controlling the operation within the first level and said controlling the operation within the second level each being a function of the first and second level operational parameters (col. 4, lines 39-67; col. 5, lines 1-64).

Regarding claim 15, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the first level operational parameter and second level operational parameter are indicative of fuel usage in the railway system.

Regarding claim 16, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the first level operational parameter and second level operational parameter are indicative of an economic valuation of the time of delivery of cargo carried in the railway system.

Regarding claim 17, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the operational parameters are provided from one level to the other at predetermined intervals.

Regarding claim 18, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the operational parameters are indicative of predetermined changes in conditions.

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Regarding claim 19, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) system of claim 18 wherein the operational parameters are indicative of a rate of change in the conditions.

Regarding claim 20, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 19 wherein the rate of change is with respect to time (col. 7, lines 29-49).

Regarding claim 21, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 19 wherein the rate of change is the change in one condition with respect to another (col. 7, lines 39-67).

Regarding claim 22, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 14 wherein an extent of compliance of the second level with the system optimization parameter is communicated periodically from the second level to the first level for adjusting the first and second level operational parameters based thereon.

Regarding claim 26, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 22 wherein controlling the operation within the first level and controlling the operation within the second level includes identifying key operating constraints and data at one of the first and second level and communicating these constraints and data to another of the first and second level to improve performance of operation at the another level.

Regarding claim 50, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose a system for management of a railway system and its operational components, the railway system comprising:

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a first level (col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64) including first level operational parameters defining operational characteristics and data of the first level; and

a second level (col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64) including second level operational parameters configured to control an operation within the second level as a function of the first level operational parameters and second level operational parameters and wherein the second level operational parameters are indicative of changes in operational characteristics and data of the second level over time (col. 7, lines 3-67; col. 8, lines 1-67), wherein the second level is a sub-level of said first level; and

said second level providing the first level with second level operational parameters (see signal exchange, figs. 2, 4-14), and wherein said first level determines the first operational parameters as a function of the provided second level operational parameters..

Regarding claim 52, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 51 wherein the first and second level operational parameters are indicative of a change in fuel usage in the railway system.

Regarding claim 53, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 51 wherein the first and second level operational parameters are indicative of a change in an economic valuation of the time of delivery of cargo carried in the railway system.

Regarding claim 54, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the

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second level operational parameters are provided from the second level to the first level at predetermined intervals.

Regarding claim 55, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the second level is a portion of the first level.

Regarding claim 56, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 51 wherein the system operational parameter is indicative of a rate of change in second level operational parameters.

Regarding claim 57, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 56 wherein the rate of change is with respect to time.

Regarding claim 58, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 56 wherein the rate of change is the change in one condition with respect to another.

Regarding claim 62, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the first level monitors whether or not the optimized second level operation is within predetermined limits.

Response to Arguments

9. Applicant's arguments filed 11/8/06 have been fully considered but they are all not persuasive.

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Most of the 112 rejections in the prior office actions have been withdrawn in view of applicant's amendments.

The applicant is arguing that the term "optimization" or "optimize", etc, are clearly provided in the specification. Although the terms are disclosed in the specification, the applicant does not provide the requisite degree needed for one skilled in the art to ascertain what all is meant and encompassed by "optimization" as recited in claim 8. The terms are indefinite.

With regard to the 102 rejection, the applicant asserts that the prior art does not anticipate the limitations in the claims. The examiner disagrees. The applicant has made references to sections in the reference that were in contrast to the sections recited by the examiner that read on the claims. The examiner for example recites --Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose a system for management of a multi-level railway system and its operational components, the railway system comprising:

a first processor 200 associated with a railroad infrastructure level configured to control an operation of a railroad infrastructure (col. 4, lines 39-67);

a second processor 210 associated with a railroad track network level configured to control an operation of a railroad track network (col. 4, lines 64-67), wherein the railroad track network level is a sub-level of said railroad infrastructure level;

a third processor 206 associated with a train level configured to control an operation of a train (col. 4, lines 56-61), wherein the train level is a sub-level of said railroad track network level;

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a fourth processor 204 associated with a consist level configured to control an operation of a consist of a train (col. 5, lines 46-55), wherein the consist level is a sub-level of said train level; and

a fifth processor 208 associated with a locomotive level configured to control an operation of a locomotive (col. 6, lines 36-50), wherein the locomotive level is a sub-level of said consist level;

each processor associated with each level receiving performance data and input data defining operational characteristics for associated level wherein each processor is responsive to the received input data to generate output instructions, and wherein each processor controls the operation in the associated level in accordance with the generated output (fig. 2-11; col. 2, lines 39-67; col. 5, lines 46-67; col. 6, lines 36-67, etc); and

each processor further generating operating commands and parameter data and providing and providing the generated command and parameter data to a processor associated with at least one other level, and wherein the processor associated with the at least one other level is responsive to the received generated operating commands and parameter data to control an operation across all the levels of the railway system as a function of the generated command data (col. 5, lines 46 to col. 7, lines 60; col. 8, lines 47-64).-- These sections have been ignored by the applicant as they were not addressed in applicant's remarks.

It is believed that the rejections are proper and thus stand.

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Communication

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho
Examiner
Art Unit 3663

3/28/07


JACK KEITH
SUPERVISORY PATENT EXAMINER